

All Agency Project Request

2011 - 2013 Biennium

<u>Agency</u>	<u>Institution</u>	<u>Building No.</u>	<u>Building Name</u>
University of Wisconsin	Milwaukee	285-0B-1901	GLRF - MAIN BUILDING

<u>Project No.</u>	13E3Q	<u>Project Title</u>	GLRF Lab Switchgear Repl
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Project Intent

This project replaces the obsolete 50-year-old electrical switchgear to provide a modern reliable power source for this critical research laboratory facility.

Project Description

Project work includes installing five new exterior pad-mounted air interrupter 15kV switchgear bays on the west side of the facility. Two of these switchgear units (bays 1 and 2) will be used to terminate two utility incoming feeders, one unit (bay 3) will be used for metering, and the remaining two units (bays 4 and 5) will be used to serve two medium voltage transformers located in an electrical room on the third level of the facility. We Energies will provide new incoming cable in conduit from their manhole located under the sidewalk along Greenfield Avenue to bays 1 and 2. New cable in conduit will be installed from bays 4 and 5 to the electrical room and then terminated on two new 15kV switchgear units that will serve as disconnects for the two existing 1500/2000kVA, 13.2kV-480V transformers.

The two existing 15kV incoming switchgear units, one 15kV circuit breaker, and two 15kV medium voltage transformer disconnect switches will be removed. The existing switchgear battery bank will be removed to allow installation of the new switchgear. The existing utility-owned service cable that is routed from their manhole along Greenfield Avenue to the electrical room will be abandoned in place.

Project Justification

We Energies no longer supports plans to replace their obsolete 15kV service cable from their facilities on Greenfield Avenue to the electrical room on the third level of the building. The recommended solution includes leaving the existing service cable in place until a new university-owned exterior mounted switchgear can be installed to receive the new utility incoming service cable and a university-owned cable can be installed from the new switchgear to the electrical room. This project provides the necessary switchgear to install a reliable, maintainable utility service to the facility. It also eliminates the need for electrical room access by utility staff since the utility feeder switching can take place at the exterior pad-mounted switchgear.

There are significant concerns regarding the long-term viability of the cable and duct system that currently serve this facility. The primary risks of operation in this manner are restricted access to a manhole inside the building, the 50-year-old fiber duct located underneath the building, and multiple discontinuities and bends in the duct that will complicate the future replacement of failed equipment. The construction of the new building addition over the top of this fiber duct system will make cable replacement difficult, if not impossible, in the future.

A/E Consultant Requirements

Consultants should have specific expertise and experience in the design and coordination of medium voltage electrical power distribution systems as part of a design team. Work includes site surveys, acquiring field data, and verifying as-built conditions to assure accurate development of design and bidding documents, and production of necessary design and bidding documents. Consultants should indicate specific projects from past experience (including size, cost, and completion date) in their letter of interest and when known, include proposed consulting partners and specialty consultants.

A/E Selection Required?

Commissioning

- Level 1
 Level 2

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<u>Project Budget</u>	<u>Funding Source</u>	<u>Total</u>
Construction Cost: \$610,000	GFSB - Facilities Maintenance & Renovation [Z060]	\$828,400
Haz Mats: \$0	PRSB - []	\$0
Construction Total: \$610,000	Agency/Institution Cash []	\$0
Contingency: 15% \$91,500	Gifts	\$0
A/E Design Fees: 8% \$48,800	Grants	\$0
DFD Mgmt Fees: 4% \$28,100	Building Trust Funds [BTF]	\$0
Equipment/Other: \$50,000	Other Funding Source	\$0
\$828,400		\$828,400

Project Schedule

SBC Approval: 06/2013
 A/E Selection: 07/2013
 Bid Opening: 03/2014
 Construction Start: 05/2014
 Substantial Completion: 08/2014
 Project Close Out: 12/2014

Project Contact

Contact Name: Andrew C. Nelson
 Email: <acnelson@uwm.edu>
 Telephone No.: (414) 229-4013 x

Project Scope Consideration Checklist

- | | <u>Y</u> | <u>N</u> |
|--|-------------------------------------|-------------------------------------|
| 1. Will the building or area impacted by the project be occupied during construction? If yes, explain how the occupants will be accommodated during construction.

<i>All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Is the project an extension of another authorized project? If so, provide the project #... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Are hazardous materials involved? If yes, what materials are involved and how will they be handled?

<i>Hazardous materials abatement is not anticipated on this project. Comprehensive building survey inventory data is available on Wisconsin's Asbestos & Lead Management System (WALMS) <http://walms.doa.state.wi.us/>.</i> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent?

<i>Power interruptions will occur as service is moved to new equipment and cable.</i> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. Will the project impact the heating plant, primary electrical system, or utility capacities supplying the building? If yes, to what extent? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Are other projects or work occurring within this project's work area? If yes, provide the project # and/or description of the other work in the project scope. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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7. Have you identified the WEPA designation of the project...Type I, Type II, or Type III?
Type III.
8. Is the facility listed on a historic register (federal or state), or is the facility listed by the Wisconsin Historical Society as a building of potential historic significance? If yes, describe here.
9. Are there any other issues affecting the cost or status of this project?
10. Will the construction work be limited to a particular season or window of opportunity? If yes, explain the limitations and provide proposed solution.
Project work is seasonal. Preferred project work schedule should be limited to late spring, summer, and/or early fall months if possible.
11. Will the project improve, decrease, or increase the function and costs of facilities operational and maintenance budget and the work load? If yes, to what extent?
12. Are there known code or health and safety concerns? If yes, identify and indicate if the correction or compliance measure was included in the budget estimate, or indicate plans for correcting the issue(s).
13. Are there potential energy or water usages reduction grants, rebates, or incentives for which the project may qualify (i.e. Focus on Energy <<http://www.focusonenergy.com>> or the local utility provider)? If yes, describe here.
14. If this is an energy project, indicate and describe the simple payback on state funding sources in years and the expected energy reduction here.